

# SEMICONDUCTOR LAMINATED THIN FILM, ELECTRONIC DEVICE AND DIODE

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- international: **H01L21/28; H01L29/12; H01L29/786; H01L29/861; H01L31/04; H01L21/02; H01L29/02; H01L29/66; H01L31/04; (IPC-1-7): H01L21/28; H01L29/12; H01L29/786; H01L29/861; H01L31/04**

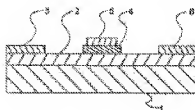
- European:

Application number: JP19990030000 19990208

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## Abstract of JP 2000228516 (A)

**PROBLEM TO BE SOLVED:** To realize a transparent semiconductor bond utilizing characteristics of an oxide, by laminating an inorganic material layer containing composite oxide containing at least Cu, and an n-type semiconductor oxide layer showing an n-type conductive characteristic, on a substrate. **SOLUTION:** This laminated thin film has a structure in which an inorganic material layer 4 containing composite oxide containing monovalent Cu such as  $\text{CuAlO}_2$  or  $\text{SrCu}_2\text{O}_2$ , i.e., an inorganic oxide material and an n-type semiconductor layer 2 showing an n-type conductive characteristic are laminated on a substrate 1. Preferably, the inorganic layer 4 has a band gap of 2.5 eV or more, and is a p-type semiconductor. Preferably, the n-type semiconductor layer 2 is made of n-type semiconductor oxide and a compound containing ZnO as a main component, and has a band gap of 2.5 eV or more. Preferably, a transparent material such as glass is used for the substrate 1. As a result, a transparent substrate bond utilizing characteristics of oxide can be realized, and an electronic device such as a diode or the like can be obtained.



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